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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,357	11/18/2004	Hubert Ott		5906

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Breneman & Georges
3150 Commonwealth Avenue
Alexandria, VA 22305

EXAMINER

SCHNEIDER, CRAIG M

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/505,357

Applicant(s)

OTT ET AL.

Examiner

Craig M. Schneider

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/18/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 11/18/2004 had an incorrect Patent Number for the US reference. The examiner was able to locate the correct document per the inventor and the date. The correct Patent Number was 2,983,278. Accordingly, the US patent was considered as noted on the attached IDS statement by the examiner.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Electromagnetic Valve with Annular Magnets and Spacer.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6-8, 11-13, 16-19, and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Heintz (2,983,278).

Heintz discloses a valve as seen in Figure 1 with two pole pieces (11 and 12), wherein at least one pole piece includes a fluid line (42 and 34) and a valve seat (36 and 43), and wherein the fluid line is connected by the valve seat with a valve chamber

Art Unit: 3753

(area around 27 including 23), in which a valve body can move between at least two switch settings, wherein the improvement comprises at least one guide piece (24) disposed in a valve housing to linearly guide the valve body in an axial direction between the switch settings (col. 1, line 49 to col. 2, line 72).

Regarding claim 2, wherein the at least one guide piece is a guide sleeve (10) with guide elements (24).

Regarding claim 3, wherein the guide elements include inner radial ribs disposed on the guide sleeve (24).

Regarding claim 4, wherein the guide piece has a fluid passage (23).

Regarding claim 6, wherein the guide piece is a spacer element in the area of the valve chamber for setting the distance of the valve seat from another stop surface for the valve body as can be seen in Figure 1.

Regarding claim 12, at least one permanent magnet (27).

Regarding claim 23, the valve further comprising outer connecting tubes (74 and 73) secured in at least one pole piece to carry fluid (col. 4, lines 17-21).

5. Claims 1, 4, 6-8, 10-11, 20, and 24-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Staiger et al. (4,336,823).

Staiger et al. discloses a valve as seen in Figure 1 with two pole pieces (10 and 12), wherein at least one pole piece includes a fluid line (11, 14, and 15) and a valve seat as seen in Figure 2A, and wherein the fluid line is connected by the valve seat with a valve chamber (17), in which a valve body can move between at least two switch settings, wherein the improvement comprises at least one guide piece (23) disposed in

Art Unit: 3753

a valve housing to linearly guide the valve body in an axial direction between the switch settings (col. 2, line 67 to col. 4, line 7).

Regarding claim 4, wherein the guide piece has a fluid passage as seen in Figure 3.

Regarding claim 6, wherein the guide piece is a spacer element (18) in the area of the valve chamber for setting the distance of the valve seat from another stop surface for the valve body.

Regarding claim 10, the valve further comprising a second fluid line (15) radially disposed from the fluid line as an eccentric hole in a pole piece (12).

Regarding claim 20, wherein the pole pieces, the valve seat, the valve chamber, the valve body and the at least one guide piece is disposed in a tubular valve housing and the tubular valve housing is disposed in a control coil (5) as seen in Figure 1.

6. Claims 1-4, 6-8, 11, 20-22, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kühl et al. (4,511,118).

Kühl et al. disclose a valve as seen in the Figure with two pole pieces (4 and 6), wherein at least one pole piece includes a fluid line and a valve seat (5 and 7), and wherein the fluid line (8 and 9) is connected by the valve seat with a valve chamber (11), in which a valve body (3) can move between at least two switch settings, wherein the improvement comprises at least one guide piece (2) disposed in a valve housing to linearly guide the valve body in an axial direction between switch settings (col. 3, line 4 to col. 4, line 11).

Claim Rejections - 35 USC § 103

Art Unit: 3753

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heintz in view of McMullen (4,437,815).

Heintz discloses all the features of the claimed invention except that the guide piece is made at least partially of plastic. McMullen discloses that sleeves, casing, plugs, and ports of valve armatures can all be made of plastic (col. 2, line 67 to col. 3, line 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize plastic as the material of construction as disclosed by McMullen onto the guide piece of Heintz, in order to decrease the manufacturing cost.

Art Unit: 3753

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kühl et al. in view of McMullen (4,437,815).

Kühl et al. disclose all the features of the claimed invention except that the guide piece is made at least partially of plastic. McMullen discloses that sleeves, casing, plugs, and ports of valve armatures can all be made of plastic (col. 2, line 67 to col. 3, line 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize plastic as the material of construction as disclosed by McMullen onto the guide piece of Kühl et al., in order to decrease the manufacturing cost.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heintz in view of Tespa (4,590,962).

Heintz discloses all the features of the claimed invention except that the guide piece includes a filter element. Tespa discloses the use of a filter element (31) in a passageway as seen in Figure 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the filter of Tespa into the valve passageways of Heintz, in order to retain any solid matter (col. 7, lines 12-20).

12. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heintz in view of Hunt (3,828,818).

Heintz discloses all the features of the claimed invention except that the permanent magnet is annular and is located on a projection of the pole piece that is

Art Unit: 3753

tapered. Hunt discloses a permanent magnet that (32) that is annular in shape and is disposed on the valve seat area of the pole piece (10)(col. 2, lines 55-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the annular magnet of Hunt on the valve seats of Heintz, in order to decrease the electrical power required.

13. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Staiger et al. in view of Hunt.

Staiger et al. disclose an electromagnetic valve article of manufacture comprising: a control coil housing having a first end and a second end; a first substantially cylindrical pole piece having a first end and a second end disposed within the control coil housing the first end extending to about the first end of the control coil housing; a second substantially cylindrical pole piece having a first end and a second end disposed within the control coil housing the first end extending to about the second end of the control coil housing; a valve housing disposed intermediate the pole pieces; and a guide element having an opening therein disposed between the second end of the first substantially cylindrical pole piece and the second end of the first substantially cylindrical pole piece and fixing the size of the valve housing. Staiger et al. does not disclose a first permanent magnet disposed at about the second end of the first substantially cylindrical pole piece, a second permanent magnet disposed at about the second end of the second substantially cylindrical pole piece, and that the valve housing disposed intermediate the first permanent magnet and the second permanent magnet. Hunt discloses using a permanent magnet at the valve seat.

Art Unit: 3753

It would have been obvious to one skilled in the art to put the permanent magnet as disclosed by Hunt at each valve seat and to make the valve out of a magnetic material onto the valve of Staiger et al., in order to decrease the electrical power required.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Blosser, Jr. (3,552,437) discloses a solenoid operated ball valve with guides. Bremner et al. (3,203,447), Heimann (3,809,123), and Masaki et al. (4,506,701) disclose solenoid valves that utilize magnets on the closing elements.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig M. Schneider whose telephone number is (571) 272-3607. The examiner can normally be reached on M-F 8:30 -5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3753

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMS *CMS*
August 31, 2006


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